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EXAMINER

CHANG, JEFFREY HAO-WEI

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3739

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,694	Applicant(s) LU, YIQUN	
	Examiner JEFFREY H. CHANG	Art Unit 3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-52 is/are pending in the application.
- 4a) Of the above claim(s) 52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendments and comments, received 2/11/10, have been fully considered by the examiner. In particular, the amendments to the Specification have overcome the objections to the Specification. Furthermore, cancellation of claims 1-34 has obviated the 112, second paragraph rejections. The following is a complete response to non-final sent 10/08/09. Claims 1-34 have been cancelled. Newly submitted claims 35-52 are currently pending.

Election/Restrictions

2. Newly submitted claim **52** is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the apparatus of Claim 35 can be made by a materially different process and does not require the steps recited in Claim 52. For instance, the PCB structure of Claim 35 is not required to be flexible, and therefore does not require the steps of "manipulating the flexible circuit board...into a cylindrical structure" recited in Claim 52.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 52 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

3. Claims **35, 45, 46, 50** objected to because of the following informalities:

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Regarding claim **35**, “the signal processing and transmitting device” (lines 14-15) should read --the *image* signal processing and transmitting device--.

Regarding claim **45**, “an external controller compatible with corresponding controller” should read --an external controller compatible with *a* corresponding controller--.

Regarding claim **46**, “so that the controller intelligent capsule” should read --so that the controller *of the* intelligent capsule--.

Regarding claim **50**, “The capsule pattern endoscope of claim 35” should read --The capsule pattern endoscope of claim *49*--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims **41, 43, 44, 46, 48-51** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim **41** depends on a canceled claim.

Claim **43** recites the limitation "the image compression processor". There is insufficient antecedent basis for this limitation in the claim.

Claim **44** recites the limitation "the microwave transceiver". There is insufficient antecedent basis for this limitation in the claim.

Claim **46** is unclear because the relationship between "sending microwave control commands" and "complet[ing] the commands received" is not apparent, and the limitation "the commands received" lacks antecedent basis.

Claim **48** recites the limitation "the camera chip, the DSP chip in the wireless emission chip". There is insufficient antecedent basis for this limitation in the claim.

Claims **49-51** recite the limitation "cylindrical like shaped". It is unclear what cylindrical *like* shaped is.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims **35, 37-39, 42-48** are rejected under 35 U.S.C. 102(e) as being anticipated by Takizawa et al (US 2004/0176685).

Regarding claim **35**, Figs. 1A-2 of Takizawa et al disclose a capsule pattern endoscope comprising:

an intelligent capsule (3) comprising: an outer shell having a front cover (22), a rear cover (i.e. main body 21) and a PCB structure (i.e. flexible printed circuit 32) operatively connected thereto; an image information acquiring device (i.e. lens 23 & image pick-up element 25) operatively positioned relative to the outer shell and comprising: an image sensor (25),

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operatively positioned within the outer shell; and a lens optical system (23), operatively positioned within the outer shell and operatively connected to the image sensor; an image signal processing and transmitting device (i.e. communication circuit 28) operatively positioned within the outer shell; a light source (26), operatively positioned within the outer shell; a power source (29), operatively positioned within the outer shell and operatively connected to the image information acquiring device, the signal processing and transmitting device and the light source (all of these components inherently require power; see [0056]) and;

an image receiving device (i.e. extracorporeal unit 5) operatively positioned relative to the intelligent capsule.

Regarding claim **37**, Fig. 2 of Takizawa et al discloses that the image information acquiring device (23, 25), the image signal processing and transmitting device (28) and the light source (26) are assembled on a flexible circuit board (32) in an integrated manner wholly or partly (see [0056] where capsule components are “integrated” because they are combined into a single unit through physical and electrical connection).

Regarding claim **38**, Fig. 2 of Takizawa et al discloses an image compression processor (i.e. processing circuit 27; see [0055]).

Regarding claim **39**, Fig. 2 of Takizawa et al discloses a microwave transceiver (i.e. communication circuit 28) capable of sending compressed image data (see [0055]).

Regarding claim **42**, Takizawa et al discloses a CMOS image sensor (see [0133]).

Regarding claim **43**, Fig. 2 of Takizawa et al discloses that the image compression processor (27) comprises a CPU, DSP or ASIC processor (i.e. CPU 27a).

Regarding claim **44**, Fig. 2 of Takizawa et al discloses a microwave communication chip (i.e. communication chip 28).

Regarding claim **45**, Figs. 1A-2 of Takizawa et al disclose an external controller (i.e. extracorporeal unit 5) compatible with corresponding controller of the intelligent capsule (i.e. processing circuit 27).

Regarding claim **46**, Takizawa et al discloses that the external controller (5) is capable of sending microwave control commands to the intelligent capsule (see [0055]) so that the controller intelligent capsule completes the commands received (processing circuit 27/CPU 27a controls capsule operations, which inherently are completed when performed).

Regarding claim **47**, Fig. 2 of Takizawa et al discloses a flexible circuit board (32).

Regarding claim **48**, Fig. 2 of Takizawa et al discloses that the camera chip (i.e. image pick-up element 25), the DSP chip (i.e. processing 27) in the wireless emission chip (i.e. communication 28) are operatively positioned on the flexible circuit board (32; Fig. 2 shows these components attached to flexible board 32).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims **40-41**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al (US 2004/0176685) in view of Gazdzinski (US Pub. No. 2001/0051766 A1).

Regarding claim **40**, it is noted that Takizawa et al does not disclose an image cutting device as required. However, Gazdzinski discloses image-cutting (i.e. windowing; see [0210]). It would have been obvious to one having ordinary skill in the art at the time of invention to modify the capsule endoscope of Takizawa et al with image windowing compression as taught by Gazdzinski as windowing results in smaller image sizes which reduces data transmission time and the amount of memory space required to store the image (see, e.g., Gazdzinski [0043]).

Regarding claim **41**, it is noted that Takizawa et al does not disclose the image compression rate adjusting as required. However, Gazdzinski discloses image compression rate adjusting (lines 16-25 of [0185] where PCM and DPCM require different compression rates, and an image compression rate adjusting device is inherently required to switch between the two compression methods). It would have been obvious to one having ordinary skill in the art at the time of invention to modify the capsule endoscope of Takizawa et al with the feature of the image compression rate adjusting as taught by Gazdzinski as pulse code modulation and delta

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pulse code modulation are conventionally used image data compression methods (see Gazdzinski [0185]).

11. Claims **36, 49-51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al (US 2004/0176685) in view of Ichiro et al (JP 2001-091860).

Regarding claims **36, 49-51**, it is noted that Takizawa et al does not disclose antenna structure operatively positioned on the rear cover of the outer shell or a cylindrical-shaped circuit board. However, Figs. 3-5 of Ichiro et al disclose antenna structure operatively positioned on the rear cover of the outer shell and a cylindrical like shaped circuit board (i.e. flexible antenna 140, 141, when rolled up, is positioned on rear cover and is cylindrical-shaped), operatively connected to a power source (antenna is connected to a transceiver, which is connected to a power source) and operatively positioned inside the outer shell (antenna 140, 141 is placed in capsule). It would have been obvious to one having ordinary skill in the art at the time of invention to substitute the box-like antenna of Takizawa et al (33; Fig. 2) with the cylindrical-shaped antenna taught by Ichiro et al as the antenna of Ichiro saves space by lining the capsule body.

Response to Arguments

12. Applicant's arguments filed 2/11/10 have been fully considered but they are not persuasive. In addressing the rejections in the remarks filed February 11, 2010, Applicant alleges that all rejections have been overcome by the new claims but fails to point out how the new claims are distinguished from the prior art and thus why the rejections are overcome. Therefore, since the Examiner's positions are set forth above, no further explanation by the Examiner is deemed necessary.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY H. CHANG whose telephone number is (571) 270-5336. The examiner can normally be reached on Monday - Thursday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. H. C./
Examiner, Art Unit 3739

/John P Leubecker/
Primary Examiner, AU 3739